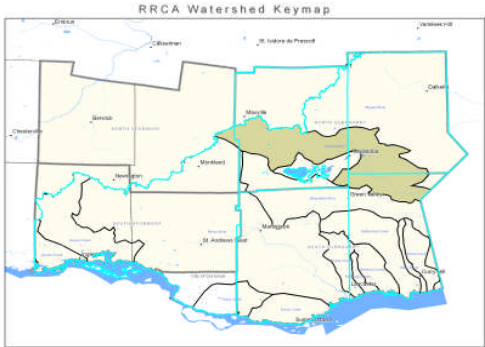




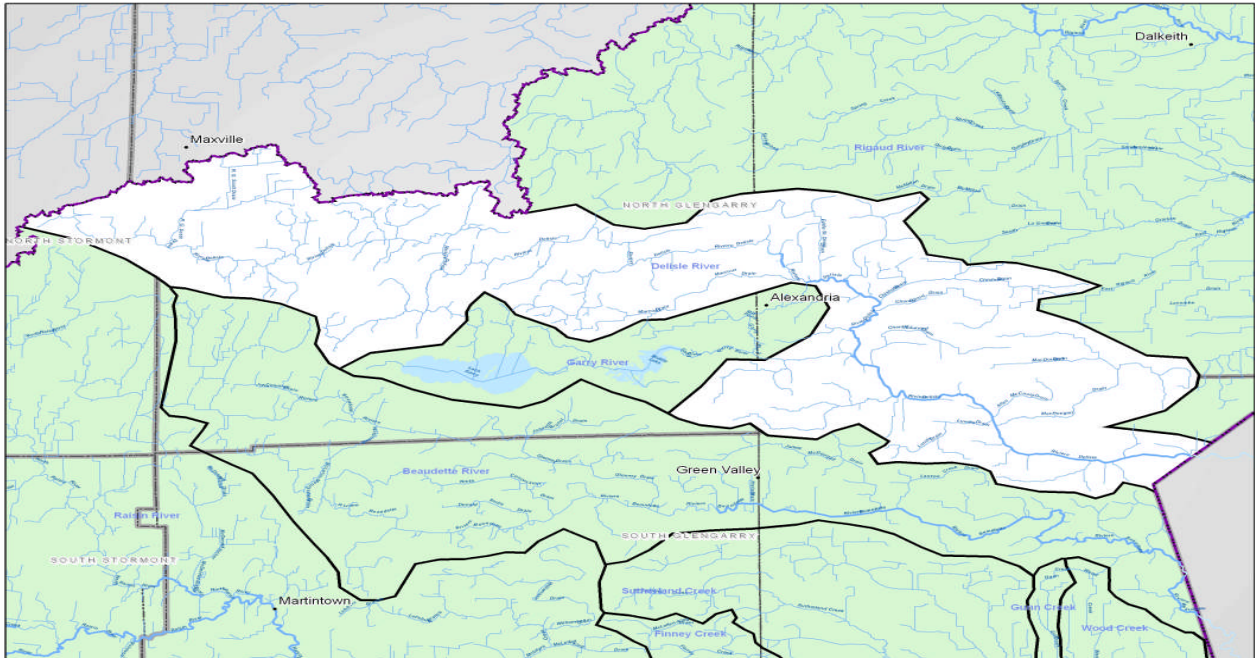
Delisle River Report Card

Grades:

- C+** Forest Conditions
- C** Wetland Conditions
- D-** Surface Water Quality



This Watershed Report Card outlines the environmental information for the Delisle River watershed as of 2006. The information provides a description of forest, wetland and water parameters and ideas for local action to assist agency staff, municipalities and interested parties working for the protection of local forest, wetland and water resources.



Municipalities: Municipalities of North Stormont and North and South Glengarry
Watercourses: Delisle River



Forest Conditions

Grade **C+**

Overall, forest conditions in the Delisle River watershed rank a C+ grade. The Remedial Action Plan delisting criteria is 30% forest cover in the Area of Concern tributary watershed to maintain ecosystem function. Based on 1991 data, there are two old growth stands representing 0.1% of the total sub-watershed area which falls short of the Remedial Action criteria of 5%

The Remedial Action Plan delisting criteria is 5% forest interior habitat in the Area of Concern tributary watershed. Forest interior habitat consists of forest cover in which the forest extends 200 metres from forest edge and has a minimum core area size of 40 hectares.

Indicators	Delisle River Results		Raisin Region Watershed Average		Indicator Description
Forest Cover	38%	B	36%	B	Forest cover is the percentage of the watershed that is forested. It is believed there should be at least 25-30% natural cover to sustain native plants and animals.
Forest Interior	5%	C	4%	D	Forest interior refers to the protected area inside a woodlot that some species require to survive. The outer 200 metre perimeter is 'edge' habitat and prone to stresses from predators, alien species and the elements.

Local Actions Needed for Improvement:

- Protection of all woodlands and Locally Significant Wetlands at the municipal planning level is a very important and effective method of preserving local forest cover.
- Forest interior can be increased by "bulking up" woodlots to make them larger and rounder by planting native trees and shrubs around existing woodlots or allowing the edges to naturalize on their own (eg. Retire land near woodlot edges).
- Connections can be made between woodlots and other habitat types by planting hedgerows or windbreaks along fields, waterways and roads.
- To improve the health of individual woodlots, owners should prepare and follow Woodlot Management Plans.





Wetland Conditions

Grade C

Overall, wetland conditions in the Delisle River watershed rank a C grade. The Remedial Action Plan delisting criteria is 10% wetland cover in the Area of Concern tributary watershed to maintain ecosystem function.

Wetlands are an important source of habitat for fish and wildlife species. Wetlands serve as flood control areas by holding water and reducing flow. Wetlands act as holding areas for the local water table and play a very important role in water quality improvement.

Indicators	Delisle River Results		Raisin Region Watershed Average		Indicator Description
Wetland Cover	6%	C	8%	C	Wetland cover is the percentage of the watershed that is wetland (swamp and/or marsh). It is believed there should be at least 10% natural wetland cover to sustain biodiversity and wetland functioning.

Local Actions Needed for Improvement:

- Protection of all Provincially and Locally Significant Wetlands at the municipal planning level is a very important and effective method of preserving wetland cover.
- Wetland biodiversity can be increased by planting native trees and shrubs around existing wetlands or allowing the edges to naturalize on their own (eg. Retire land near woodlot edges). This will provide essential habitat for many wetland species.
- Connections can be made between wetlands and other habitat types, such as forests, by planting hedgerows or windbreaks along fields, waterways and roads to support the movement of native species.
- To improve the health of individual wetlands (swamp), owners should prepare and follow Woodlot Management Plans.
- To create or improve the size of individual wetlands, owners should contact the Conservation Authority for assistance in designing a wetland project.





Surface Water Quality

Grade **D-**

The Delisle River sub-watershed ranks a D- with respect to overall water quality based on benthic, phosphorus and bacteria scores.

A Hilsenhoff Index score of higher than 5.00 indicates that organic pollution is likely and water quality deteriorates.

Indicators	Delisle River Results		Raisin Region Watershed Average		Provincial Guideline	Indicator Description
Benthic Score (H.I)	5.85	F	6.30	F	5.00	Benthic organisms are the aquatic invertebrates that live in stream sediments and are a good indicator of water quality and stream health. The Hilsenhoff Index assigns a weighting for each taxon of invertebrate based on its tolerance of organic pollution. The sum of the weighted scores gives an indication of the degree of organic pollution in the stream.
Phosphorus (mg/L)	0.089	C	0.173	F	0.03	Phosphorus is found in such products as soaps, detergents, fertilizers and pesticides and contributes to excess algae and low oxygen in streams and lakes.
Bacteria (per 100 ml)	340	F	180	F	100	E. Coli bacteria are found in human and animal waste and their presence in water indicates fecal contamination. E. Coli bacteria are a strong indicator for the potential to have other disease-causing organisms in the water

Local Actions Needed for Improvement:

- Plant buffers (grassed or treed) along creeks, rivers and open drains to filter runoff and provide shade.
- Implement protection of identified groundwater infiltration zones and conduct groundwater research and monitoring.
- Target soil erosion measures to areas of high erodibility.
Encourage landowners to repair or replace faulty septic systems.
- Encourage agricultural Best Management Practices in the areas of manure storage and spreading, soil conservation practices, fertilizer and pesticide application, milkhouse washwater disposal and cattle access restriction.
- Promote the completion of Environmental Farm Plans and Nutrient Management Plans
- Protection of Provincially and locally significant wetlands in Official Plan





Delisle River Watershed Features

Area	19,103 ha
Land Use	The major land use within the Delisle River is agricultural, specifically dominated by dairy farming.
Soil Type	The watershed has a rolling topography created from long drumoidal ridges and a few well-formed drumlins interceded with clay flats and swamps. Delisle River is underlain with mostly loam soils with several un-drained areas of peat or muck. From Alexandria to Dornie Road, the soil is varved clay and stone free with poor drainage. Most of the remaining area is medium textured till, moderately stony with good drainage. Several pockets within the stony zone contains organic material underlain by silt and clay material.
Stream Flow	The river flows south and easterly towards the St. Lawrence River. It is a fifth stream order system with 289 km of streams (< 20 m width). Five km of stream runs through public land, and the remaining 284 km is found on private land. The mean annual discharge of Delisle River near Alexandria is 0.971 m ³ /s.
Fishery Resources	Warm water fishery community. A total of 54 sites were sampled on the Delisle River for the presence of fish. Of these, 6 were top predator (Class B, E), 19 were baitfish (Class C), and 18 were intermittent (Class F). The total number of species is currently under investigation. Cutlip minnow classified as threatened in Ontario by ROM
Woodlot Size	There are 472 stands within the sub-watershed with an average size of 15.6 ha. The largest stand in this sub-watershed is 734.6 ha.
Riparian Forest	40% of stream length on public lands has riparian buffer, 26% on private lands.
Rare Species	Fish – Cutlips Minnow Mammals – Grey Fox
Significant Natural Sites	Provincially Significant Wetlands – Hwy 43 Swamp, Loch Garry Marsh Locally Significant Wetlands - Hwy 34 Swamp, Bloomington Swamp, Delisle River, Dornie Road Swamp, Glen Norman Swamp, Greenfield Swamp, Maxville Swamp, McMillon Dr. Swamp, South Alexandria Swamp, St. Denis Swamp Significant Natural Areas - None Areas of Natural and Scientific Interest – None



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